(No Model.)

W. A. FOOTE.

BELT CONTROLLER FOR DYNAMOS.

No. 454,467. Patented June 23, 1891.

Fig. 1

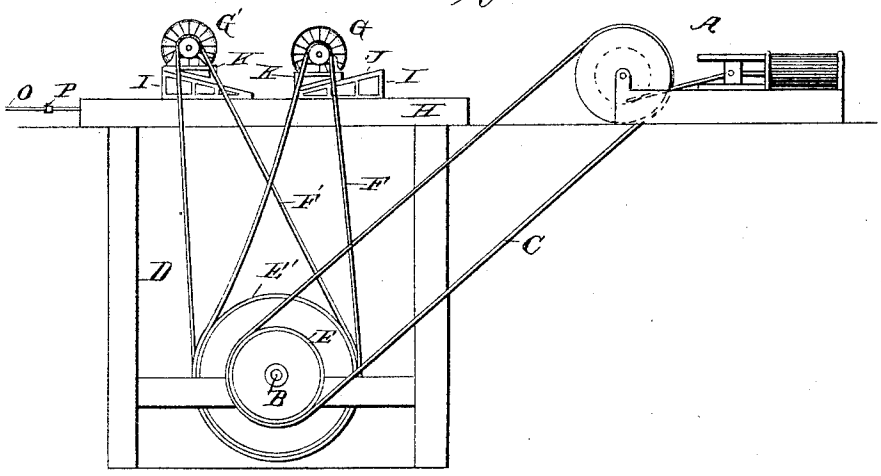


Fig. 2

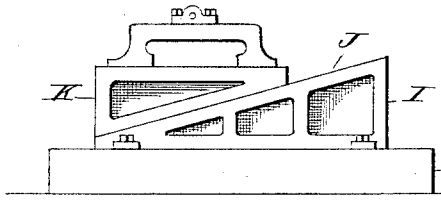
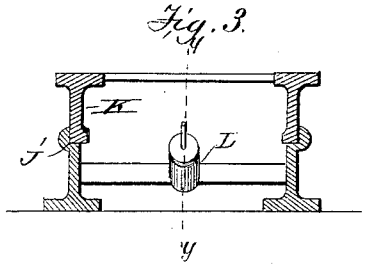


Fig. 4.

Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM A. FOOTE, OF BATTLE CREEK, MICHIGAN.

BELT-CONTROLLER FOR DYNAMOS.

SPECIFICATION forming part of Letters Patent No. 454,467, dated June 23, 1891.

Application filed July 31, 1890. Serial No. 360,532. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. FOOTE, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Belt-Controllers for Dynamo-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in belt-controllers for dynamo-machines; and the invention consists in the peculiar construction of the supporting-frame for a dynamo, whereby the dynamo may be moved to slacken the drive-belt or to tighten the same, and, further, in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation showing my device applied to dynamos. Fig. 2 is an enlarged side elevation of one of the frames detached. Fig. 3 is a vertical cross-section on line *x x* of Fig. 4 of one of the frames, and Fig. 4 is a vertical central longitudinal section of one of the frames on line *y y* of Fig. 3.

A represents an engine of any suitable construction.

B is the counter-shaft, to which power is transmitted from the engine by means of the belt C. This I preferably arrange in a suitable well D for economy of room and to place the dynamos above the counter-shaft.

E is the driven pulley, and E′ is the driving-pulley, over which run the belts F F′, one connected to each of the dynamos G G′, which are arranged at the top of the well. Each dynamo is supported upon a frame of the following construction:

H is the base. I is the base-plate, secured upon the base in any suitable manner and having its upper surface J inclined and provided with suitable bearings J′, in which engage the lower edges of the frame K, which is oppositely inclined upon its lower edge and carries upon its top the dynamo G. The part K of the frame is adapted to slide up and down the inclined surface J of the base-plate I.

L is the hydraulic jack, rigidly secured in the base-plate I at a corresponding angle to the incline J upon said plate and having the piston-rod M secured to the plate K.

O is a suitable supply-pipe connecting with the hydraulic jack, and also connected with any suitable source of power, such as a pump. P is a valve controlling said pipe.

Q is an outlet-pipe provided with a controlling-valve Q′.

The parts being thus constructed, they are intended to operate as follows: Motion being transmitted to the counter-shaft B from the engine, the belt being slack in order to give it the proper tension to drive the dynamos, the dynamos being at the lower end of the incline J, as shown in Fig. 2, the valve Q′ is closed and the valve P is opened. Power being had from the pump, the water entering through the pipe O will move the piston M′ outwardly, together with its piston-rod M, carrying with it the frame K and the dynamo until the proper tension is brought upon the belt, when the valve P may be closed and the dynamo held in this position as long as necessary. As soon as the valve P is closed the pump may be stopped. If it is desired to slacken the belt, it is done by simply opening the escape-valve Q′, which allows the water to escape from the hydraulic jack, when the weight of the dynamo and frame will cause the frame K to slide down the incline J, loosening the belt. As soon as the belt is loosened the valve Q′ may be closed again and the dynamo and its frame held in the adjusted position.

The pipe O may be connected with an ordinary boiler feed-pump necessary in such a plant, and as the extra expense of building such dynamo-frames is very small my device may be applied very readily.

What I claim as my invention is—

1. In a belt-controller for dynamos, the combination, with the base having an inclined upper face, of a supporting-frame having its lower side oppositely inclined relative to the base and adjustably held thereon, a reciprocating piston connected with the supporting-frame, and means for reciprocating the piston, substantially as described.

2. In a belt-controller for dynamo-machines, the combination of the base having an inclined upper face, an upper frame having an

oppositely-inclined lower face resting on the upper face of the base, a cylinder secured on the base, a piston in said cylinder having its rod secured to the upper frame, a supply-pipe leading to the lower end of the cylinder back of the piston, a valve P therein, an exhaust-pipe Q, and a valve Q′ therein, substantially as described.

3. In a belt-controller for dynamo-machines, the combination, with the base having an inclined upper face and an upper frame having an oppositely-inclined lower face slidingly secured on the base, of a cylinder secured on the base parallel to the incline of its upper face, a piston in said cylinder, a rod on said piston having its opposite end secured to the upper sliding frame, and means for supplying and exhausting liquid in the cylinder back of the piston, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. FOOTE.

Witnesses:
JAMES WHITTEMORE,
M. B. O'DOGHERTY.